

| | Type | L # | Hits | Search Text | DBs |
|----|------|-------|------|---|--------------|
| 1 | IS&R | L1 | 1 | ("5820769").PN. | USPAT |
| 2 | IS&R | L2 | 1 | ("5583727").PN. | USPAT |
| 3 | IS&R | L3 | 8 | ((("6331364") or ("6383597") or ("6493183") or ("5436448") or ("6011664") or ("5900728") or ("5900729") or ("5804710")).PN. | USPAT |
| 4 | BRS | L4 | 0 | ("2003002191" or "20030107833") | USPAT |
| 5 | BRS | L5 | 0 | ("20030021191" or "20030107833") | USPAT |
| 6 | BRS | L6 | 2 | ("20030021191" or "20030107833") | US- PGPUB |
| 7 | BRS | (L7) | 17 | ("5583727").uref. | USPAT |
| 8 | BRS | (L8) | 10 | ("5820769").uref. | USPAT |
| 9 | IS&R | L9 | 2 | ((("5583727") or ("5820769")).PN. | USPAT |
| 10 | BRS | L10 | 1084 | ((discrete ADJ magnetic) or (single ADJ2 domain) or (patterned ADJ5 (media or medium or disk or disc)) or (magnetic ADJ5 island)). same (disk or disc or medium or media) | USPAT |
| 11 | BRS | L11 | 346 | L10 and coerciv\$3 | USPAT |
| 12 | BRS | L12 | 10 | L10 same ((multipl\$5 or plural\$3 or several) ADJ3 (layer or level)) | USPAT |
| 13 | BRS | (L13) | 31 | L10 same ((multipl\$5 or plural\$3 or several) ADJ3 (layer or level)) or multilevel or multilayer) | USPAT |
| 14 | BRS | L14 | 21 | L13 not L12 | USPAT |

IDS ref.

Searched circled L #'s

| | Type | L # | Hits | Search Text | DBs |
|----|------|-----|------|--|----------|
| 15 | BRS | L17 | 24 | ((discrete ADJ magnetic) or (single ADJ2 domain) or (patterned ADJ5 (media or medium or disk or disc)) or (magnetic ADJ5 island)) same (disk or disc or medium or media) same (((multipl\$5 or plural\$3 or several) ADJ3 (layer or level)) or multilayer or multilevel) | US-PGPUB |
| 16 | BRS | L18 | 0 | ((discrete ADJ magnetic) or (single ADJ2 domain) or (patterned ADJ5 (media or medium or disk or disc)) or (magnetic ADJ5 island)) same (disk or disc or medium or media) same (((multipl\$5 or plural\$3 or several) ADJ3 (layer or level)) or multilayer or multilevel) | EPO |
| 17 | BRS | L19 | 0 | ((discrete ADJ magnetic) or (single ADJ2 domain) or (patterned ADJ5 (media or medium or disk or disc)) or (magnetic ADJ5 island)) same (disk or disc or medium or media) same (((multipl\$5 or plural\$3 or several) ADJ3 (layer or level)) or multilayer or multilevel) | JPO |
| 18 | BRS | L20 | 26 | ((discrete ADJ magnetic) or (single ADJ2 domain) or (patterned ADJ5 (media or medium or disk or disc)) or (magnetic ADJ5 island)) same (disk or disc or medium or media) | EPO |

Searched circled L #'s

| | Type | L # | Hits | Search Text | DBs |
|----|------|-----|------|---|-------------|
| 19 | BRS | L22 | 109 | ((discrete ADJ magnetic) or (single ADJ2 domain) or (patterned ADJ5 (media or medium or disk or disc)) or (magnetic ADJ5 island)) same (disk or disc or medium or media) | JPO |
| 20 | BRS | L24 | 252 | ((discrete ADJ magnetic) or (single ADJ2 domain) or (patterned ADJ5 (media or medium or disk or disc)) or (magnetic ADJ5 island)) same (disk or disc or medium or media) | DERWEN T |
| 21 | BRS | L25 | 0 | ((discrete ADJ magnetic) or (single ADJ2 domain) or (patterned ADJ5 (media or medium or disk or disc)) or (magnetic ADJ5 island)) same (disk or disc or medium or media) same ((multipl\$5 or plural\$3 or several) ADJ3 (layer or level)) or multilayer or multilevel) | DERWEN T |
| 22 | BRS | L26 | 176 | ((patterned ADJ5 (media or medium or disk or disc)) or (magnetic ADJ5 island)) same (disk or disc or medium or media) | DERWEN T |
| 23 | BRS | L27 | 53 | ((patterned ADJ5 (media or medium or disk or disc)) or (magnetic ADJ5 island)) same (disk or disc or medium or media) | JPO |
| 24 | BRS | L28 | 13 | ((patterned ADJ5 (media or medium or disk or disc)) or (magnetic ADJ5 island)) same (disk or disc or medium or media) | EPO |

Searched circled L #'s

| | Type | L # | Hits | Search Text | DBs |
|----|------|-----|------|---|-------------|
| 25 | BRS | L29 | 8 | ((patterned ADJ5 (media or medium or disk or disc)) or (magnetic ADJ5 island)) same (disk or disc or medium or media) | IBM_TD B |

Searched circled L #'s

IEEE HOME | SEARCH IEEE | SHOP | WEB ACCOUNT | CONTACT IEEE



Membership Publications/Services Standards Conferences Careers/Jobs

IEEE Xplore®
 RELEASE 1.8

 Welcome
 United States Patent and Trademark Office

IEEE Xplore®
 1 Million Documents
 1 Million Users
 » Advanced Search

[Help](#) [FAQ](#) [Terms](#) [IEEE Peer Review](#)
[Quick Links](#)
Welcome to IEEE Xplore®

- ☐ Home
- ☐ What Can I Access?
- ☐ Log-out

Tables of Contents

- ☐ Journals & Magazines
- ☐ Conference Proceedings
- ☐ Standards

Search

- ☐ By Author
- ☐ Basic
- ☐ Advanced
- ☐ CrossRef

Member Services

- ☐ Join IEEE
- ☐ Establish IEEE Web Account
- ☐ Access the IEEE Member Digital Library

IEEE Enterprise

- ☐ Access the IEEE Enterprise File Cabinet

Try our New Full-text Search Prototype **GO**
[Help](#)

- 1) Enter a single keyword, phrase, or Boolean expression.
Example: acoustic imaging (means the phrase acoustic imaging plus any stem variations)
- 2) Limit your search by using search operators and field codes, if desired.
Example: optical <and> (fiber <or> fibre) <in> ti
- 3) Limit the results by selecting Search Options.
- 4) Click Search. See [Search Examples](#)

```
((patterned medium) <or>
(patterned media) <or>
(patterned magnetic medium)
<or> (patterned magnetic
```

```
media)) <and> (multilevel<or> multilayer
<or> (multiple levels) <or>
(multiple magnetic levels))
```

Start Search
Clear

Note: This function returns plural and suffixed forms of the keyword(s).

Search operators: <and> <or> <not> <in> [More](#)

Field codes: au (author), ti (title), ab (abstract), jn (publication name), de (index term) [More](#)

Search Options:
Select publication types:

- ☒ IEEE Journals
- ☒ IEE Journals
- ☒ IEEE Conference proceedings
- ☒ IEE Conference proceedings
- ☒ IEEE Standards

Select years to search:

 From year: **All** to **Present**
Organize search results by:

 Sort by: **Relevance**

 In: **Descending** order

 List **15** Results per page

[Home](#) | [Log-out](#) | [Journals](#) | [Conference Proceedings](#) | [Standards](#) | [Search by Author](#) | [Basic Search](#) | [Advanced Search](#) | [Join IEEE](#) | [Web Account](#) | [New this week](#) | [OPAC Linking Information](#) | [Your Feedback](#) | [Technical Support](#) | [Email Alerting](#) | [No Robots Please](#) | [Release Notes](#) | [IEEE Online Publications](#) | [Help](#) | [FAQ](#) | [Terms](#) | [Back to Top](#)

Copyright © 2004 IEEE — All rights reserved



Advanced Search

[Advanced Search Tips](#) | [About Google](#)

| | | | | |
|----------------------|---|--|--------------|--|
| Find results | with all of the words | <input type="text"/> | 10 results ▾ | <input type="button" value="Google Search"/> |
| | with the exact phrase | <input type="text" value="patterned medium"/> | | |
| | with at least one of the words | <input type="text" value="multilevel multilayer"/> | | |
| | without the words | <input type="text"/> | | |
| Language | Return pages written in | <input style="width: 150px;" type="text" value="any language"/> | | |
| File Format | <input type="button" value="Only ▾"/> return results of the file format | <input style="width: 150px;" type="text" value="any format"/> | | |
| Date | Return web pages updated in the | <input style="width: 100px;" type="text" value="anytime"/> | | |
| Numeric Range | Return web pages containing numbers between | <input style="width: 50px;" type="text"/> | and | <input style="width: 50px;" type="text"/> |
| Occurrences | Return results where my terms occur | <input style="width: 150px;" type="text" value="anywhere in the page"/> | | |
| Domain | <input type="button" value="Only ▾"/> return results from the site or domain | <input style="width: 150px;" type="text"/> | | |
| | | e.g. google.com , .org More info | | |
| SafeSearch | <input checked="" type="radio"/> No filtering <input type="radio"/> Filter using SafeSearch | | | |

Froogle Product Search (BETA)

Products Find products for sale

 To browse for products, start at the [Froogle home page](#)

Page-Specific Search

Similar Find pages similar to the page

 e.g. [www.google.com/help.html](#)
Links Find pages that link to the page

Topic-Specific Searches

 New! [Local](#) - Find local businesses and services on the web.

[Catalogs](#) - Search and browse mail-order catalogs online

[Apple Macintosh](#) - Search for all things Mac

[BSD Unix](#) - Search web pages about the BSD operating system

[Linux](#) - Search all penguin-friendly pages

[Microsoft](#) - Search Microsoft-related pages

[U.S. Government](#) - Search all .gov and .mil sites

[Universities: Stanford, Brown, BYU, & more](#) - Narrow your search to a specific school's website

 New! [Google Scholar](#) - Search scholarly papers

©2004 Google

This Page Blank (uspto)

Google

Advanced Search

[Advanced Search Tips](#) | [About Google](#)

| | | | |
|----------------------|---|--|---|
| Find results | with all of the words | <input type="text"/> | 10 results <input type="button" value="Google Search"/> |
| | with the exact phrase | <input type="text" value="patterned media"/> | |
| | with at least one of the words | <input type="text" value="multilevel multilayer"/> | |
| | without the words | <input type="text"/> | |
| Language | Return pages written in | <input type="text" value="any language"/> | |
| File Format | <input type="button" value="Only"/> return results of the file format | <input type="text" value="any format"/> | |
| Date | Return web pages updated in the | <input type="text" value="anytime"/> | |
| Numeric Range | Return web pages containing numbers between | <input type="text"/> | and <input type="text"/> |
| Occurrences | Return results where my terms occur | <input type="text" value="anywhere in the page"/> | |
| Domain | <input type="button" value="Only"/> return results from the site or domain | <input type="text"/> | |
| | | e.g. google.com, .org More info | |
| SafeSearch | <input checked="" type="radio"/> No filtering <input type="radio"/> Filter using SafeSearch | | |

Froogle Product Search (BETA)

Products Find products for sale

To browse for products, start at the [Froogle home page](#)

Page-Specific Search

Similar Find pages similar to the page

e.g. www.google.com/help.html

Links Find pages that link to the page

Topic-Specific Searches

New! [Local](#) - Find local businesses and services on the web.

[Catalogs](#) - Search and browse mail-order catalogs online

[Apple Macintosh](#) - Search for all things Mac

[BSD Unix](#) - Search web pages about the BSD operating system

[Linux](#) - Search all penguin-friendly pages

[Microsoft](#) - Search Microsoft-related pages

[U.S. Government](#) - Search all .gov and .mil sites

[Universities: Stanford, Brown, BYU, & more](#) - Narrow your search to a specific school's website

New! [Google Scholar](#) - Search scholarly papers

©2004 Google

This Page Blank (uspto)

| | Type | L # | Hits | Search Text | DBs |
|---|------|-----|------|---|--------------|
| 1 | BRS | L1 | 1311 | ((magnetic or hard) ADJ3 (disk or disc or medium or media)) and coerciv\$3 and perpendicular\$2 and ((disk or disc or medium or media) same (((multipl\$5 or plural\$3 or several or many or second or two) ADJ5 (layer or level)) or multilevel or multilayer)) | USPAT |
| 2 | BRS | L2 | 541 | ((magnetic or hard) ADJ3 (disk or disc or medium or media)) and coerciv\$3 and perpendicular\$2 and ((disk or disc or medium or media) same (((multipl\$5 or plural\$3 or several or many or second or two) ADJ5 (layer or level)) or multilevel or multilayer)) | US- PGPUB |
| 3 | BRS | L3 | 5 | ((magnetic or hard) ADJ3 (disk or disc or medium or media)) and coerciv\$3 and perpendicular\$2 and ((disk or disc or medium or media) same (((multipl\$5 or plural\$3 or several or many or second or two) ADJ5 (layer or level)) or multilevel or multilayer)) | EPO |
| 4 | BRS | L4 | 29 | ((magnetic or hard) ADJ3 (disk or disc or medium or media)) and coerciv\$3 and perpendicular\$2 and ((disk or disc or medium or media) same (((multipl\$5 or plural\$3 or several or many or second or two) ADJ5 (layer or level)) or multilevel or multilayer)) | JPO |

Searched all